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| 10/804,924 | 03/19/2004 | Frederick W. Romig | 030021-00020 | 8221 |
| David C. Jenkins Eckert Seamans Cherin & Mellott, LLC 44th Floor 600 Grant Street Pittsburgh, PA 15219 | | | | |
| EXAMINER BARTOSIK, ANTHONY N | | | | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/804,924

Applicant(s)

ROMIG, FREDERICK W.

Examiner

ANTHONY N. BARTOSIK

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

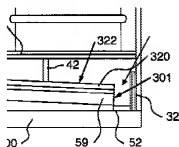
DETAILED ACTION

This is a Second Action Non-Final on the merits in response to Applicant's Amendments.

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. **Claims 1-4, 7-9, 11-17, 22, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Romig (US 6,305,131 B1) in view of Westin et al. (US 4,122,716) and White (US 5,005,227).**
3. In Re claim 1, Figures 1-4 and Column 2 Lines 50-67 of Romig teaches an upper floor (20) having openings therethrough; a lower floor (50) that is sloped from an upper end to an elongated basin. Col. 3 Lines 54-56 teach, suggest, or motivate one to include vents within a hazardous storage building for safety purposes. Romig does not, however, disclose the vents utilizing a duct, vent openings, and a means for removing air.

Modified Fig. 2 of Romig



Figures 1 and 2 as well as Column 2 of Westin et al. teach at least one vent duct (19 & 22) adjacent to a lower floor basin (8), the vent duct (19 & 22) including vent openings structured to allow air and fumes to be introduced into the vent duct (19 & 22); and means for removing the air (20) and fumes in the vent duct (19 & 22) therefrom. Westin et al. teaches the use of the aforementioned structure in a hazardous storage facility for removing toxic fumes.

Westin et al. does not disclose the vent duct disposed beneath the upper floor, however, it is well know to include vent ducts below an upper surface to which they are attached. Figure 3 of White teaches that it is well know to disclose a vent duct (14) below an upper surface for ventilating toxic gases. Furthermore, one skill in the art would recognize that disposing the vent duct below an upper surface would result in a more effective duct system for ventilating. The increased ventilation would be due to the fact that the duct would be projecting farther into the area containing the toxic fumes that were sought to be ventilated. This would be necessary, since most toxic fumes are denser then air and tend to collect at the lowest point in which they are contained. Placing the vent duct as claimed is nothing more than a simple substitution of know elements which yields a predictable result, the predictable result being increased ventilation.

It therefore, would have been obvious to one skilled in the art at the time of the invention to modify the hazardous material storage facility of Romig by including a vent duct system such as one taught by Westin et al. for venting a hazardous materials

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storage facility and thereby extending a vent duct below the upper floor as taught by White in order to more effectively ventilate the facility.

4. In Re claim 2, Figures 1 and 2 as well as Column 2 of Westin et al. disclose a means for removing the air and fumes that includes at least one exhaust fan (20).
5. In Re claim 3, Figures 1-8 and Column 3 Lines 30-31 of Romig discloses an elongated basin including a channel (52) disposed at the bottom of the basin.
6. In Re claim 4, Figures 1-8 and Column 3 Lines 30-34 of Romig discloses a channel (52) that is sloped in a direction generally perpendicular to the direction of the lower floor (50) slope.
7. In Re claim 7, the above combination teaches disposing at least one vent duct above said channel.
8. In Re claim 8, modified Romig teaches vent openings (Column 2 Lines 38-40 of Westin et al.) that are disposed on the bottom of the vent duct and the above combination teaches the vent duct facing the channel.
9. In Re claim 9, the above combination teaches vent openings that are disposed on one or more sides of the vent duct. The Examiner notes that since Applicant has not

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given an indication as to what is the bottom, top, or side of the vent duct, as such any portion of the vent duct can be considered a side. Therefore, the vent openings as taught by Westin et al. are being considered to be disposed on one side of the vent duct.

10. In Re claim 11, Figures 3A, 3B, 6, and 8B of Romig discloses a lower floor (50) including a sloped floor with two portions, a first sloped portion and a second sloped portion wherein said first and second sloped portions are sloped towards each other whereby said basin is at the vertex of the lower floors (50).

11. In Re claim 12, Figure 6 of Romig discloses an elongated basin including a channel (52) disposed at the bottom of the basin.

12. In Re claim 13, Figure 6 and Col. 4 Lines 1-7 of Romig disclose a channel (52) that is sloped in a direction generally perpendicular to the direction of the slope of the lower floor (50).

13. In Re claim 14, the combination of Romig, Westin et al., and White teach at least one vent duct that is disposed above said channel. Furthermore, placing a vent above a channel is known in the art (Westin et al.) and adding the variation of two floor portions feeding one channel would do nothing more than yield a predicable result.

In Re claim 15, the combination as stated in claim 14 teaches the claimed invention except for two vent ducts. A design engineer, faced with ventilating a hazardous storage facility would have found it obvious to include a second vent duct to properly ventilate the structure. It therefore would have been obvious to one skilled in the art at the time of the invention to include a second vent duct to better ventilate the facility.

14.

Furthermore, it would have been obvious to one skilled in the art at the time of the invention to include a second vent duct, since it has been held that mere duplication of essential working parts of a device involves only routine skill in the art. MPEP 2144.04.

15. In Re claim 16, the combination of Romig, Westin et al., and White teach at least one vent duct disposed below said lower floor and above the bottom of said channel, said vent openings extending between said at least one vent duct and said channel.

In Re claim 17, the combination as stated in claim 14 teaches the claimed invention except for two vent ducts. A design engineer, faced with ventilating a hazardous storage facility of sufficient size would have found it obvious to include a second vent duct to properly ventilate the structure. It therefore would have been obvious to one skilled in the art at the time of the invention to include a second vent duct to better ventilate the facility.

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16.

Furthermore, it would have been obvious to one skilled in the art at the time of the invention to include a second vent duct, since it has been held that mere duplication of essential working parts of a device involves only routine skill in the art. MPEP 2144.04.

17. In Re claim 22, the combination of Romig, Westin et al., and White teach the limitations of the claim. The Examiner notes that a duct such as one taught by Westin et al. is elongated and has a longitudinal axis and that axis is parallel to the corresponding longitudinal axis of the basin of Romig.

18. In Re claim 23, the combination of Romig, Westin et al., and White teach the limitations of the claim. The Examiner notes that the channel such as the one taught by Romig has a longitudinal axis and placing that axis parallel to the corresponding longitudinal axis of a vent duct such as the one taught in Westin et al would have been obvious from the above combination.

19. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Romig (US 6,305,131 B1), Westin et al. (US 4,122,716), and White (US 5,005,227) as applied to claims 1-4 above, and further in view of Heintzelman et al. (US 5,030,033).

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20. In Re claim 5, the combination of Romig, Westin et al., and White have been discussed above and teach at least one exhaust fan but fail to teach at least one vapor sensor disposed adjacent to it. Column 10 Lines 37-45 of Heintzelman et al. teach the use of a vapor sensor for detecting toxic vapors. It would have been obvious to one skilled in the art at the time of the invention to modify the combination of Romig, Westin et al., and White by including a vapor sensor such as one taught in Heintzelman et al. and placing that vapor sensor adjacent the exhaust fan in order to detect toxic fumes.

21. In Re claim 6, Figures 1 and Column 3 Lines 47-61 of Romig teaches a spill detection system (70) structured to cooperate with a sensor (60), but not a vapor sensor. Column 10 Lines 37-41 of Heintzelman et al. teaches the use of a vapor sensor for detection of leaks. Therefore, it would have been obvious to one skilled in the art at the time of the invention to include a vapor sensor as taught by Heintzelman et al. in such a way as to cooperate with the spill detection system of Romig to detect leaks.

22. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Romig (US 6,305,131 B1), Westin et al. (US 4,122,716), and White (US 5,005,227) as applied to claim 1-3 and 7 above, and further in view of Hawkins et al. (US 5,597,392).

23. In Re claim 10, Westin et al. teaches a vent duct, but the vent duct lacks a gate means. It is well known in the art that providing a gate means on a vent duct is an

inexpensive means to regulate flow, as opposed to using a variable speed fan.

Hawkins et al. teaches a gate means (18) structured to selectively open and cover the vent openings. It would have been obvious to one skilled in the art at the time of the invention to modify the vent duct of Westin et al. by including a gate means as taught by Hawkins et al. in order to provide an inexpensive means by which to regulate the flow.

24. Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Romig (US 6,305,131 B1), Westin et al. (US 4,122,716), and White (US 5,005,227) as applied to claims 1-3 above, and further in view of Rieger (US 4,909,227).

25. In Re claim 19, the combination of Romig and Westin teach the claimed invention, including the vent openings and a duct extending above said upper floor, however, it lacks the teaching of an inner and outer duct system.

Col. 2 Lines 69-68 of Rieger teach the use of an inner duct to remove gas and an outer duct to introduce fresh air. Using the teaching of an inner and outer duct system for removing gas and introducing fresh air as taught by Rieger, it would have been obvious to one skilled in the art at the time of the invention to modify the duct system of the combination to include an inner duct and outer duct in order to remove the gas inside the storage facility and introduce fresh air. Additionally, this would also equalize the pressure in the building.

26. In Re claim 20, the above combination teaches at least one vent duct that is disposed above a channel.

27. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Romig (US 6,305,131 B1), Westin et al. (US 4,122,716), White (US 5,005,227), and Hawkins et al. (US 5,597,392) as applied to claim 19 above, and further in view of Heintzelman et al. (US 5,030,033).

28. In Re claim 21, the combination teaches the claimed invention except for the use of vapor sensors and the location of the vapor sensors. Column 10 Lines 37-43 of Heintzelman et al. teaches the use of a vapor sensor in connection with a hazardous storage facility to detect leakage in the facility. Using the teachings of Heintzelman et al. it would have been obvious to one skilled in the art at the time of the invention to modify the combination to include vapor sensors anywhere within the storage facility, and within the inner and outer duct to detect vapors from a leak. Furthermore, the Examiner notes that it would also be obvious to include the sensors in the inner and outer duct to measure the difference between the incoming air and out going air.

Response to Arguments

29. Applicant's arguments, filed 10/25/2007, with respect to claims 1 and 18 have been fully considered and are persuasive. The rejection of claim for the previous action

has been withdrawn. The Examiner is in agreement with Applicant's argument regarding the prior art failing to show a vent duct disposed below the upper floor. As such the prior rejection has been withdrawn and a new one has been issued addressing the abovementioned limitation.

30. Applicant's arguments directed to claims 2-4, 7-9, 11-17 have been fully considered but are not persuasive.

31. **In response to Applicant's argument** regarding claims 12 and 15-17, that the art cannot be combined. The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

32. **In response to Applicant's argument** that Romig and Westin et al. the art cannot be combined with Heintzelman. Again, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re*

Keller, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). The Examiner is using the teaching of including a vapor sensor in a structure containing hazardous gasses as a suggestion that it would be known to those of ordinary skill in the art to make the combination.

33. **In response to Applicant's argument** that Romig and Westin et al. the art cannot be combined with Hawkins due to non-analogous art. In response to Applicant's argument that Hawkins is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, the vent cover in Hawkins is for a vent duct, bringing it within the purview of the field of Applicant's invention. Additionally, it is also relevant to the problem being solved by the present claim, the problem being regulating the flow through the duct. Nothing taught in either the references or anything known to one skilled in the art would prevent the teachings of Hawkins from being applied in a hazardous material storage facility such as the one taught in Romig.

Response to Additional Definitions

34. Applicant indicated in the Remarks section of the submitted amendment that Appendix 1 was to be included in the amendment. No such Appendix 1 has been received and therefore is not part of the present record.

Allowable Subject Matter

35. Claim 18 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANTHONY N. BARTOSIK whose telephone number is (571)270-3112. The examiner can normally be reached on M-F 7:30-5:00; E.D.T.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Chilcot can be reached on 571-272-6777. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Richard E. Chilcot/
Supervisory Patent Examiner, Art
Unit 3635

/A. N. B./
Examiner, Art Unit 3635